

From: [Redacted]
To: [Lindsey, Deborah](#)
Cc: [Redacted], [Graybill, Eric](#)
Subject: 48737 - Validated Electronic Data for Weirton BOP Implosion
Date: Tuesday, May 05, 2020 12:36:00 PM
Attachments: [image001.png](#)
[48747 MC8TR1 LTR.pdf](#)
[48747 MC8TR1 DVR.pdf](#)
[48747 MC8TR1 SSR.pdf](#)
[EQuIS 1 48747 MC8TR1 VAL.xls](#)
[EQuIS 2 48747 MC8TR1 VAL.xls](#)
[EQuIS 3 48747 MC8TR1 VAL.xls](#)
[EQuIS 48747 MC8TR1 VAL.xls](#)

Deborah Lindsey
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Deborah,

Attached to this message you will find electronic files containing the validation report and validated data for the Weirton BOP Implosion site, Case # 48747, SDG MC8TR1. The validation of this case was completed by the Region III Environmental Services Assistance Team (ESAT).

Please contact ESAT's RPO, Eric Graybill by phone at 410-305-2665 or e-mail at Graybill.Eric@epa.gov if additional assistance is needed.

TO # 0002 TDF # 0320061



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350



DATE: 5/5/2020

SUBJECT: Region III Data QA Review

FROM: Eric Graybill
Region III ESAT RPO (3LS20)

Non-responsive based on revised scope
Non-responsive based on revised scope

TO: DEBORAH LINDSEY
Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the WEIRTON BOP IMPLOSION SITE site for RAS# 48747; SDG# MC8TR1 completed by the Region III Environmental Services Assistance Team (ESAT) contractor, ICF International, under the direction of Region III LSASD.

If you have any questions regarding this review, please call Eric Graybill at (410)-305-2665.

Attachment

cc:

Non-responsive based on revised scope
Non-responsive based on revised scope

TO: #0002 TDF: #0320061





ICF
ESAT Region 3
US Environmental Protection Agency Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Phone 410-305-3012

Date: May 4, 2020
To: ESAT Region 3 Project Officer

From: Non-responsive based on revised scope
Non-responsive based on revised scope
Validator

Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope
Reviewer

Subject: Inorganic Data Validation (S4VEM)
Weirton BOP Implosion
48747, MC8TR1

Overview

This data package consisted of nineteen (19) soil samples including two field duplicate pairs analyzed for total metals by ICP-AES and for mercury (Hg) by cold vapor atomic absorption technique.

Analysis was performed by Bonner Analytical Testing Company (BON) according to Contract Laboratory Program (CLP) Statement of Work (SOW) ISM02.4.

Data were validated according to the National Functional Guidelines for Inorganic Superfund Methods Data Review and applicable USEPA Region 3 modifications. Electronic validation was performed by the Electronic Data eXchange & Evaluation System (EXES). The validation report has been assigned the Superfund Data Validation Label Stage_3_Validation_Electronic_Manual (S3VEM).

The following validation narrative is an evaluation of laboratory reported data based on the reconciliation electronic data package available through the EXES Data Manager dated March 17, 2020.

Rinsate blank MCOAD1 (analyzed in SDG MCBTR2) was used in evaluating blank contamination for the associated samples in this case based on sampling date.

Summary

No data quality outliers or technical deficiencies were identified that would require rejection of sample results. A matrix spike outlier and blank contamination issues resulted in estimated sample results for several analytes.

Minor Problems

Laboratory instrumentation reported negative values greater than absolute value of the Method Detection Limits (MDL) for thallium (Tl) and Hg in blank analyses. Positive results less than the Contract Required Quantitation Limits (CRQLs) for these analytes have been reported at the CRQL and qualified "UJ". Quantitation limits for these analytes are estimated and qualified "UJ".

The matrix spike recovery was low (<75%) for antimony (Sb) in sample MC0AB2. The post digestion spike recovery was within limits. The quantitation limit for Sb is estimated in this sample and has been qualified "UJ".

Notes

Analytes detected below the CRQLs are estimated and have been qualified "J".

Antimony (Sb), beryllium (Be), cadmium (Cd), cobalt (Co), silver (Ag) and sodium (Na) have been detected in laboratory blanks associated with the sample in this SDG. Concentrations of these analytes which were less than the CRQL have been reported at the CRQL and qualified "U".

No positive results were reported for the associated rinsate blank. No data were qualified based on the rinsate blank.

Laboratory duplicate, serial dilution and Laboratory Control Sample (LCS) analyses reported acceptable results.

The matrix spike recovery was outside control limits for lead (Pb) in sample MC0AB2. The initial concentration for Pb was greater than four times (>4X) the amount of the spike added. No data were qualified.

Concentrations for the following analytes exceeded the calibration range in the initial analysis of samples listed. These samples were reanalyzed at dilution to bring the concentration of the analyte within the calibration range. Results for these analytes are reported from dilution.

Sample	DF	Analyte(s)
MC0AB4	5X	Iron (Fe), Manganese (Mn)
MC0AB5	3X	Fe, Mn
MC0AC2	2X	Mn
MC0AC8, MC0AD0	2X	Fe
MC0AC9	5X	Mn

Results for the field duplicate pairs, samples MC0AB4/MC0AB5 and MC0AC4/MC0AC5, were within \pm CRQL, 25% RPD except for calcium (Ca) in duplicate pair MC0AB4/MC0AB5. Data are not qualified based on field duplicate precision. No data were qualified based on this finding.

All Sample numbers in this SDG were previously used by the laboratory in their LIMS as an SDG number. Per the Region, the SDG number for this case was changed to MC8TR1.

Sample calculation checks were performed for several analytes in several samples. All calculated results had RPDs less than 5% of the reported results. No sample data were qualified.

Validation qualifiers are only applied by the validator to field samples. Qualifiers may be applied by EXES electronic validation to laboratory quality control samples.

Glossary of Inorganic Data Qualifier Codes

Validation In order of descending precedence. Only one of these qualifiers may apply to any
Qualifiers result.

- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
- U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit
- B The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.
- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The result is an estimated quantity, but the result may be biased high.
- J- The result is an estimated quantity, but the result may be biased low.

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: LCS01	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Spike	42.2		mg/kg	42.2		1	YES	NV
Antimony	Spike	12.1		mg/kg	12.1		1	YES	NV
Arsenic	Spike	1.9		mg/kg	1.9		1	YES	NV
Barium	Spike	41.7		mg/kg	41.7		1	YES	NV
Beryllium	Spike	1.0		mg/kg	1.0		1	YES	NV
Cadmium	Spike	1.1		mg/kg	1.1		1	YES	NV
Calcium	Spike	1080		mg/kg	1080		1	YES	NV
Chromium	Spike	2.3		mg/kg	2.3		1	YES	NV
Cobalt	Spike	10.9		mg/kg	10.9		1	YES	NV
Copper	Spike	5.6		mg/kg	5.6		1	YES	NV
Iron	Spike	21.6		mg/kg	21.6		1	YES	NV
Lead	Spike	2.1		mg/kg	2.1		1	YES	NV
Magnesium	Spike	1050		mg/kg	1050		1	YES	NV
Manganese	Spike	3.3		mg/kg	3.3		1	YES	NV
Nickel	Spike	8.6		mg/kg	8.6		1	YES	NV
Potassium	Spike	1000		mg/kg	1000		1	YES	NV
Selenium	Spike	7.2		mg/kg	7.2		1	YES	NV
Silver	Spike	1.1		mg/kg	1.1		1	YES	NV
Sodium	Spike	1020		mg/kg	1020		1	YES	NV
Thallium	Spike	5.0		mg/kg	5.0		1	YES	NV
Vanadium	Spike	10.9		mg/kg	10.9		1	YES	NV
Zinc	Spike	13.5		mg/kg	13.5		1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-01	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14	UJ	mg/kg	0.026	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-01	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15600		mg/kg	15600		1	YES	S4VEM
Antimony	Target	8.3	UJ	mg/kg	1.5	J*	1	YES	S4VEM
Arsenic	Target	11.2		mg/kg	11.2		1	YES	S4VEM
Barium	Target	84.9		mg/kg	84.9		1	YES	S4VEM
Beryllium	Target	0.69	U	mg/kg	0.68	J	1	YES	S4VEM
Cadmium	Target	0.69	U	mg/kg	0.13	J	1	YES	S4VEM
Calcium	Target	4060		mg/kg	4060		1	YES	S4VEM
Chromium	Target	60.6		mg/kg	60.6		1	YES	S4VEM
Cobalt	Target	10.8		mg/kg	10.8		1	YES	S4VEM
Copper	Target	23.0		mg/kg	23.0		1	YES	S4VEM
Iron	Target	34100		mg/kg	34100		1	YES	S4VEM
Lead	Target	31.4		mg/kg	31.4		1	YES	S4VEM
Magnesium	Target	3390		mg/kg	3390		1	YES	S4VEM
Manganese	Target	1250		mg/kg	1250		1	YES	S4VEM
Nickel	Target	23.5		mg/kg	23.5		1	YES	S4VEM
Potassium	Target	1810		mg/kg	1810		1	YES	S4VEM
Selenium	Target	4.9	U	mg/kg	4.9	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	0.22	J	1	YES	S4VEM
Sodium	Target	693	U	mg/kg	51.2	J	1	YES	S4VEM
Thallium	Target	3.5	UJ	mg/kg	3.5	U	1	YES	S4VEM
Vanadium	Target	41.4		mg/kg	41.4		1	YES	S4VEM
Zinc	Target	205		mg/kg	205		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2A	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	17.4		mg/kg	17.4		1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2D	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.031	J	mg/kg	0.031	J	1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2D	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15000		mg/kg	15000		1	YES	NV
Antimony	Target	1.3	J	mg/kg	1.3	J	1	YES	NV
Arsenic	Target	11.4		mg/kg	11.4		1	YES	NV
Barium	Target	81.1		mg/kg	81.1		1	YES	NV
Beryllium	Target	0.65	J	mg/kg	0.65	J	1	YES	NV
Cadmium	Target	0.15	J	mg/kg	0.15	J	1	YES	NV
Calcium	Target	4520		mg/kg	4520		1	YES	NV
Chromium	Target	59.8		mg/kg	59.8		1	YES	NV
Cobalt	Target	10.9		mg/kg	10.9		1	YES	NV
Copper	Target	22.0		mg/kg	22.0		1	YES	NV
Iron	Target	32400		mg/kg	32400		1	YES	NV
Lead	Target	28.0		mg/kg	28.0		1	YES	NV
Magnesium	Target	3310		mg/kg	3310		1	YES	NV
Manganese	Target	1200		mg/kg	1200		1	YES	NV
Nickel	Target	22.3		mg/kg	22.3		1	YES	NV
Potassium	Target	1700		mg/kg	1700		1	YES	NV
Selenium	Target	4.9	U	mg/kg	4.9	U	1	YES	NV
Silver	Target	0.23	J	mg/kg	0.23	J	1	YES	NV
Sodium	Target	47.4	J	mg/kg	47.4	J	1	YES	NV
Thallium	Target	3.5	U	mg/kg	3.5	U	1	YES	NV
Vanadium	Target	40.4		mg/kg	40.4		1	YES	NV
Zinc	Target	194		mg/kg	194		1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2L	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:	% Solids: 66.8		

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15500		mg/kg	15500		5	YES	NV
Antimony	Target	1.5	J	mg/kg	1.5	J	5	YES	NV
Arsenic	Target	10.7		mg/kg	10.7		5	YES	NV
Barium	Target	83.2	J	mg/kg	83.2	J	5	YES	NV
Beryllium	Target	0.64	J	mg/kg	0.64	J	5	YES	NV
Cadmium	Target	0.12	J	mg/kg	0.12	J	5	YES	NV
Calcium	Target	4110		mg/kg	4110		5	YES	NV
Chromium	Target	61.9		mg/kg	61.9		5	YES	NV
Cobalt	Target	11.0	J	mg/kg	11.0	J	5	YES	NV
Copper	Target	24.2		mg/kg	24.2		5	YES	NV
Iron	Target	35000		mg/kg	35000		5	YES	NV
Lead	Target	29.6		mg/kg	29.6		5	YES	NV
Magnesium	Target	3440	J	mg/kg	3440	J	5	YES	NV
Manganese	Target	1270		mg/kg	1270		5	YES	NV
Nickel	Target	21.8	J	mg/kg	21.8	J	5	YES	NV
Potassium	Target	1810	J	mg/kg	1810	J	5	YES	NV
Selenium	Target	24.3	U	mg/kg	24.3	U	5	YES	NV
Silver	Target	0.52	J	mg/kg	0.52	J	5	YES	NV
Sodium	Target	37.5	J	mg/kg	37.5	J	5	YES	NV
Thallium	Target	17.3	U	mg/kg	17.3	U	5	YES	NV
Vanadium	Target	41.2		mg/kg	41.2		5	YES	NV
Zinc	Target	191		mg/kg	191		5	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2S	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Spike	0.82		mg/kg	0.82		1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB2S	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date: 02/19/2020	Sample Time: 09:15:00
% Moisture:		% Solids: 66.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	10.9		mg/kg	10.9	*	1	YES	NV
Arsenic	Spike	23.1		mg/kg	23.1		1	YES	NV
Barium	Spike	624		mg/kg	624		1	YES	NV
Beryllium	Spike	14.1		mg/kg	14.1		1	YES	NV
Cadmium	Spike	13.2		mg/kg	13.2		1	YES	NV
Chromium	Spike	124		mg/kg	124		1	YES	NV
Cobalt	Spike	141		mg/kg	141		1	YES	NV
Copper	Spike	88.2		mg/kg	88.2		1	YES	NV
Lead	Spike	34.2		mg/kg	34.2		1	YES	NV
Manganese	Spike	1410		mg/kg	1410		1	YES	NV
Nickel	Spike	163		mg/kg	163		1	YES	NV
Selenium	Spike	23.9		mg/kg	23.9		1	YES	NV
Silver	Spike	13.6		mg/kg	13.6		1	YES	NV
Thallium	Spike	14.0		mg/kg	14.0		1	YES	NV
Vanadium	Spike	186		mg/kg	186		1	YES	NV
Zinc	Spike	358		mg/kg	358		1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB3	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-02	pH:	Sample Date: 02/19/2020	Sample Time: 09:37:00
% Moisture:		% Solids: 77.6	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.12	UJ	mg/kg	0.12	U	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB3	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-02	pH:	Sample Date: 02/19/2020	Sample Time: 09:37:00
% Moisture:		% Solids: 77.6	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	16400		mg/kg	16400		1	YES	S4VEM
Antimony	Target	7.3	U	mg/kg	1.1	J*	1	YES	S4VEM
Arsenic	Target	18.1		mg/kg	18.1		1	YES	S4VEM
Barium	Target	192		mg/kg	192		1	YES	S4VEM
Beryllium	Target	1.0		mg/kg	1.0		1	YES	S4VEM
Cadmium	Target	0.93		mg/kg	0.93		1	YES	S4VEM
Calcium	Target	8040		mg/kg	8040		1	YES	S4VEM
Chromium	Target	41.9		mg/kg	41.9		1	YES	S4VEM
Cobalt	Target	12.8		mg/kg	12.8		1	YES	S4VEM
Copper	Target	31.7		mg/kg	31.7		1	YES	S4VEM
Iron	Target	34100		mg/kg	34100		1	YES	S4VEM
Lead	Target	246		mg/kg	246		1	YES	S4VEM
Magnesium	Target	4410		mg/kg	4410		1	YES	S4VEM
Manganese	Target	1110		mg/kg	1110		1	YES	S4VEM
Nickel	Target	28.8		mg/kg	28.8		1	YES	S4VEM
Potassium	Target	2150		mg/kg	2150		1	YES	S4VEM
Selenium	Target	4.3	U	mg/kg	4.3	U	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.32	J	1	YES	S4VEM
Sodium	Target	608	U	mg/kg	74.9	J	1	YES	S4VEM
Thallium	Target	3.0	UJ	mg/kg	3.0	U	1	YES	S4VEM
Vanadium	Target	36.5		mg/kg	36.5		1	YES	S4VEM
Zinc	Target	3010		mg/kg	3010		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB4	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-03	pH:	Sample Date: 02/19/2020	Sample Time: 10:05:00
% Moisture:		% Solids: 77.5	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.32		mg/kg	0.32		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB4	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-03	pH:	Sample Date: 02/19/2020	Sample Time: 10:05:00
% Moisture:		% Solids: 77.5	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	12900		mg/kg	12900		1	YES	S4VEM
Antimony	Target	7.2	U	mg/kg	5.2	J*	1	YES	S4VEM
Arsenic	Target	20.1		mg/kg	20.1		1	YES	S4VEM
Barium	Target	285		mg/kg	285		1	YES	S4VEM
Beryllium	Target	0.80		mg/kg	0.80		1	YES	S4VEM
Cadmium	Target	2.4		mg/kg	2.4		1	YES	S4VEM
Calcium	Target	19400		mg/kg	19400		1	YES	S4VEM
Chromium	Target	218		mg/kg	218		1	YES	S4VEM
Cobalt	Target	11.2		mg/kg	11.2		1	YES	S4VEM
Copper	Target	204		mg/kg	204		1	YES	S4VEM
Iron	Target	62700		mg/kg	62700	D	5	YES	S4VEM
Lead	Target	382		mg/kg	382		1	YES	S4VEM
Magnesium	Target	5060		mg/kg	5060		1	YES	S4VEM
Manganese	Target	4670		mg/kg	4670	D	5	YES	S4VEM
Nickel	Target	32.2		mg/kg	32.2		1	YES	S4VEM
Potassium	Target	1920		mg/kg	1920		1	YES	S4VEM
Selenium	Target	4.2	U	mg/kg	4.2	U	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.83	J	1	YES	S4VEM
Sodium	Target	597	U	mg/kg	95.3	J	1	YES	S4VEM
Thallium	Target	3.0	UJ	mg/kg	0.43	J	1	YES	S4VEM
Vanadium	Target	96.4		mg/kg	96.4		1	YES	S4VEM
Zinc	Target	1000		mg/kg	1000		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB5	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-03	pH:	Sample Date: 02/19/2020	Sample Time: 10:10:00
% Moisture:		% Solids: 80.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.25		mg/kg	0.25		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB5	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-03	pH:	Sample Date: 02/19/2020	Sample Time: 10:10:00
% Moisture:		% Solids: 80.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	12400		mg/kg	12400		1	YES	S4VEM
Antimony	Target	6.9	U	mg/kg	4.6	J*	1	YES	S4VEM
Arsenic	Target	20.3		mg/kg	20.3		1	YES	S4VEM
Barium	Target	249		mg/kg	249		1	YES	S4VEM
Beryllium	Target	0.83		mg/kg	0.83		1	YES	S4VEM
Cadmium	Target	2.1		mg/kg	2.1		1	YES	S4VEM
Calcium	Target	13900		mg/kg	13900		1	YES	S4VEM
Chromium	Target	186		mg/kg	186		1	YES	S4VEM
Cobalt	Target	10.6		mg/kg	10.6		1	YES	S4VEM
Copper	Target	210		mg/kg	210		1	YES	S4VEM
Iron	Target	64700		mg/kg	64700	D	3	YES	S4VEM
Lead	Target	361		mg/kg	361		1	YES	S4VEM
Magnesium	Target	4570		mg/kg	4570		1	YES	S4VEM
Manganese	Target	4000		mg/kg	4000	D	3	YES	S4VEM
Nickel	Target	26.7		mg/kg	26.7		1	YES	S4VEM
Potassium	Target	1820		mg/kg	1820		1	YES	S4VEM
Selenium	Target	4.0	U	mg/kg	4.0	U	1	YES	S4VEM
Silver	Target	1.1	U	mg/kg	0.73	J	1	YES	S4VEM
Sodium	Target	573	U	mg/kg	96.7	J	1	YES	S4VEM
Thallium	Target	2.9	UJ	mg/kg	2.9	U	1	YES	S4VEM
Vanadium	Target	87.7		mg/kg	87.7		1	YES	S4VEM
Zinc	Target	927		mg/kg	927		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB6	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-04	pH:	Sample Date: 02/19/2020	Sample Time: 10:20:00
% Moisture:		% Solids: 68.3	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.31		mg/kg	0.31		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB6	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-04	pH:	Sample Date: 02/19/2020	Sample Time: 10:20:00
% Moisture:		% Solids: 68.3	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	14300		mg/kg	14300		1	YES	S4VEM
Antimony	Target	8.4	U	mg/kg	1.9	J*	1	YES	S4VEM
Arsenic	Target	17.1		mg/kg	17.1		1	YES	S4VEM
Barium	Target	236		mg/kg	236		1	YES	S4VEM
Beryllium	Target	1.2		mg/kg	1.2		1	YES	S4VEM
Cadmium	Target	1.4		mg/kg	1.4		1	YES	S4VEM
Calcium	Target	11500		mg/kg	11500		1	YES	S4VEM
Chromium	Target	54.7		mg/kg	54.7		1	YES	S4VEM
Cobalt	Target	11.4		mg/kg	11.4		1	YES	S4VEM
Copper	Target	45.2		mg/kg	45.2		1	YES	S4VEM
Iron	Target	35900		mg/kg	35900		1	YES	S4VEM
Lead	Target	485		mg/kg	485		1	YES	S4VEM
Magnesium	Target	3720		mg/kg	3720		1	YES	S4VEM
Manganese	Target	1460		mg/kg	1460		1	YES	S4VEM
Nickel	Target	22.6		mg/kg	22.6		1	YES	S4VEM
Potassium	Target	2330		mg/kg	2330		1	YES	S4VEM
Selenium	Target	4.9	U	mg/kg	4.9	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	0.34	J	1	YES	S4VEM
Sodium	Target	704	U	mg/kg	84.2	J	1	YES	S4VEM
Thallium	Target	3.5	UJ	mg/kg	3.5	U	1	YES	S4VEM
Vanadium	Target	38.8		mg/kg	38.8		1	YES	S4VEM
Zinc	Target	682		mg/kg	682		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB7	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-05	pH:	Sample Date: 02/19/2020	Sample Time: 10:35:00
% Moisture:		% Solids: 67.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14	UJ	mg/kg	0.13	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB7	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-05	pH:	Sample Date: 02/19/2020	Sample Time: 10:35:00
% Moisture:		% Solids: 67.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	13200		mg/kg	13200		1	YES	S4VEM
Antimony	Target	8.6	U	mg/kg	1.5	J*	1	YES	S4VEM
Arsenic	Target	11.6		mg/kg	11.6		1	YES	S4VEM
Barium	Target	113		mg/kg	113		1	YES	S4VEM
Beryllium	Target	0.85		mg/kg	0.85		1	YES	S4VEM
Cadmium	Target	0.71	U	mg/kg	0.64	J	1	YES	S4VEM
Calcium	Target	7160		mg/kg	7160		1	YES	S4VEM
Chromium	Target	43.1		mg/kg	43.1		1	YES	S4VEM
Cobalt	Target	8.3		mg/kg	8.3		1	YES	S4VEM
Copper	Target	33.4		mg/kg	33.4		1	YES	S4VEM
Iron	Target	30200		mg/kg	30200		1	YES	S4VEM
Lead	Target	114		mg/kg	114		1	YES	S4VEM
Magnesium	Target	2800		mg/kg	2800		1	YES	S4VEM
Manganese	Target	826		mg/kg	826		1	YES	S4VEM
Nickel	Target	19.9		mg/kg	19.9		1	YES	S4VEM
Potassium	Target	1790		mg/kg	1790		1	YES	S4VEM
Selenium	Target	5.0	U	mg/kg	5.0	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	0.23	J	1	YES	S4VEM
Sodium	Target	715	U	mg/kg	62.0	J	1	YES	S4VEM
Thallium	Target	3.6	UJ	mg/kg	3.6	U	1	YES	S4VEM
Vanadium	Target	32.5		mg/kg	32.5		1	YES	S4VEM
Zinc	Target	353		mg/kg	353		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB8	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-06	pH:	Sample Date: 02/19/2020	Sample Time: 10:50:00
% Moisture:		% Solids: 60.7	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.16	UJ	mg/kg	0.035	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB8	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-06	pH:	Sample Date: 02/19/2020	Sample Time: 10:50:00
% Moisture:		% Solids: 60.7	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	16100		mg/kg	16100		1	YES	S4VEM
Antimony	Target	9.6	U	mg/kg	1.1	J*	1	YES	S4VEM
Arsenic	Target	10.0		mg/kg	10.0		1	YES	S4VEM
Barium	Target	107		mg/kg	107		1	YES	S4VEM
Beryllium	Target	1.3		mg/kg	1.3		1	YES	S4VEM
Cadmium	Target	0.80	U	mg/kg	0.18	J	1	YES	S4VEM
Calcium	Target	9090		mg/kg	9090		1	YES	S4VEM
Chromium	Target	44.8		mg/kg	44.8		1	YES	S4VEM
Cobalt	Target	12.4		mg/kg	12.4		1	YES	S4VEM
Copper	Target	28.3		mg/kg	28.3		1	YES	S4VEM
Iron	Target	33300		mg/kg	33300		1	YES	S4VEM
Lead	Target	43.9		mg/kg	43.9		1	YES	S4VEM
Magnesium	Target	4960		mg/kg	4960		1	YES	S4VEM
Manganese	Target	991		mg/kg	991		1	YES	S4VEM
Nickel	Target	33.5		mg/kg	33.5		1	YES	S4VEM
Potassium	Target	2500		mg/kg	2500		1	YES	S4VEM
Selenium	Target	5.6	U	mg/kg	5.6	U	1	YES	S4VEM
Silver	Target	1.6	U	mg/kg	0.13	J	1	YES	S4VEM
Sodium	Target	800	U	mg/kg	83.3	J	1	YES	S4VEM
Thallium	Target	4.0	UJ	mg/kg	4.0	U	1	YES	S4VEM
Vanadium	Target	33.0		mg/kg	33.0		1	YES	S4VEM
Zinc	Target	1110		mg/kg	1110		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB9	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-07	pH:	Sample Date: 02/19/2020	Sample Time: 11:15:00
% Moisture:		% Solids: 68.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14	UJ	mg/kg	0.056	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AB9	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-07	pH:	Sample Date: 02/19/2020	Sample Time: 11:15:00
% Moisture:		% Solids: 68.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	17600		mg/kg	17600		1	YES	S4VEM
Antimony	Target	8.2	U	mg/kg	0.85	J*	1	YES	S4VEM
Arsenic	Target	8.8		mg/kg	8.8		1	YES	S4VEM
Barium	Target	142		mg/kg	142		1	YES	S4VEM
Beryllium	Target	1.0		mg/kg	1.0		1	YES	S4VEM
Cadmium	Target	0.68	U	mg/kg	0.33	J	1	YES	S4VEM
Calcium	Target	4740		mg/kg	4740		1	YES	S4VEM
Chromium	Target	42.7		mg/kg	42.7		1	YES	S4VEM
Cobalt	Target	12.3		mg/kg	12.3		1	YES	S4VEM
Copper	Target	17.2		mg/kg	17.2		1	YES	S4VEM
Iron	Target	26900		mg/kg	26900		1	YES	S4VEM
Lead	Target	41.1		mg/kg	41.1		1	YES	S4VEM
Magnesium	Target	3070		mg/kg	3070		1	YES	S4VEM
Manganese	Target	1530		mg/kg	1530		1	YES	S4VEM
Nickel	Target	23.3		mg/kg	23.3		1	YES	S4VEM
Potassium	Target	2530		mg/kg	2530		1	YES	S4VEM
Selenium	Target	4.8	U	mg/kg	4.8	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	0.19	J	1	YES	S4VEM
Sodium	Target	679	U	mg/kg	49.2	J	1	YES	S4VEM
Thallium	Target	3.4	UJ	mg/kg	0.68	J	1	YES	S4VEM
Vanadium	Target	36.7		mg/kg	36.7		1	YES	S4VEM
Zinc	Target	197		mg/kg	197		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC0	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-08	pH:	Sample Date: 02/19/2020	Sample Time: 11:50:00
% Moisture:		% Solids: 51.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.30		mg/kg	0.30		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC0	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-08	pH:	Sample Date: 02/19/2020	Sample Time: 11:50:00
% Moisture:		% Solids: 51.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	16200		mg/kg	16200		1	YES	S4VEM
Antimony	Target	11.2	U	mg/kg	2.3	J*	1	YES	S4VEM
Arsenic	Target	15.7		mg/kg	15.7		1	YES	S4VEM
Barium	Target	121		mg/kg	121		1	YES	S4VEM
Beryllium	Target	0.93	U	mg/kg	0.87	J	1	YES	S4VEM
Cadmium	Target	2.5		mg/kg	2.5		1	YES	S4VEM
Calcium	Target	14200		mg/kg	14200		1	YES	S4VEM
Chromium	Target	66.3		mg/kg	66.3		1	YES	S4VEM
Cobalt	Target	13.0		mg/kg	13.0		1	YES	S4VEM
Copper	Target	54.1		mg/kg	54.1		1	YES	S4VEM
Iron	Target	45100		mg/kg	45100		1	YES	S4VEM
Lead	Target	189		mg/kg	189		1	YES	S4VEM
Magnesium	Target	4450		mg/kg	4450		1	YES	S4VEM
Manganese	Target	2120		mg/kg	2120		1	YES	S4VEM
Nickel	Target	30.0		mg/kg	30.0		1	YES	S4VEM
Potassium	Target	3190		mg/kg	3190		1	YES	S4VEM
Selenium	Target	6.5	U	mg/kg	6.5	U	1	YES	S4VEM
Silver	Target	1.9	U	mg/kg	0.51	J	1	YES	S4VEM
Sodium	Target	930	U	mg/kg	92.8	J	1	YES	S4VEM
Thallium	Target	4.7	UJ	mg/kg	4.7	U	1	YES	S4VEM
Vanadium	Target	43.8		mg/kg	43.8		1	YES	S4VEM
Zinc	Target	962		mg/kg	962		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC1	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-09	pH:	Sample Date: 02/19/2020	Sample Time: 11:55:00
% Moisture:		% Solids: 72.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.25		mg/kg	0.25		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC1	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-09	pH:	Sample Date: 02/19/2020	Sample Time: 11:55:00
% Moisture:		% Solids: 72.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	14800		mg/kg	14800		1	YES	S4VEM
Antimony	Target	7.6	U	mg/kg	1.9	J*	1	YES	S4VEM
Arsenic	Target	17.3		mg/kg	17.3		1	YES	S4VEM
Barium	Target	138		mg/kg	138		1	YES	S4VEM
Beryllium	Target	0.88		mg/kg	0.88		1	YES	S4VEM
Cadmium	Target	0.98		mg/kg	0.98		1	YES	S4VEM
Calcium	Target	5820		mg/kg	5820		1	YES	S4VEM
Chromium	Target	57.7		mg/kg	57.7		1	YES	S4VEM
Cobalt	Target	12.1		mg/kg	12.1		1	YES	S4VEM
Copper	Target	36.3		mg/kg	36.3		1	YES	S4VEM
Iron	Target	44400		mg/kg	44400		1	YES	S4VEM
Lead	Target	144		mg/kg	144		1	YES	S4VEM
Magnesium	Target	3460		mg/kg	3460		1	YES	S4VEM
Manganese	Target	1370		mg/kg	1370		1	YES	S4VEM
Nickel	Target	24.1		mg/kg	24.1		1	YES	S4VEM
Potassium	Target	2000		mg/kg	2000		1	YES	S4VEM
Selenium	Target	4.5	U	mg/kg	4.5	U	1	YES	S4VEM
Silver	Target	1.3	U	mg/kg	0.50	J	1	YES	S4VEM
Sodium	Target	636	U	mg/kg	56.7	J	1	YES	S4VEM
Thallium	Target	3.2	UJ	mg/kg	3.2	U	1	YES	S4VEM
Vanadium	Target	38.9		mg/kg	38.9		1	YES	S4VEM
Zinc	Target	463		mg/kg	463		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC2	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-10	pH:	Sample Date: 02/19/2020	Sample Time: 12:20:00
% Moisture:		% Solids: 71.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14		mg/kg	0.14		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC2	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-10	pH:	Sample Date: 02/19/2020	Sample Time: 12:20:00
% Moisture:		% Solids: 71.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	16800		mg/kg	16800		1	YES	S4VEM
Antimony	Target	8.3	U	mg/kg	2.6	J*	1	YES	S4VEM
Arsenic	Target	17.3		mg/kg	17.3		1	YES	S4VEM
Barium	Target	188		mg/kg	188		1	YES	S4VEM
Beryllium	Target	0.95		mg/kg	0.95		1	YES	S4VEM
Cadmium	Target	1.6		mg/kg	1.6		1	YES	S4VEM
Calcium	Target	5830		mg/kg	5830		1	YES	S4VEM
Chromium	Target	94.3		mg/kg	94.3		1	YES	S4VEM
Cobalt	Target	13.0		mg/kg	13.0		1	YES	S4VEM
Copper	Target	38.2		mg/kg	38.2		1	YES	S4VEM
Iron	Target	44300		mg/kg	44300		1	YES	S4VEM
Lead	Target	221		mg/kg	221		1	YES	S4VEM
Magnesium	Target	3710		mg/kg	3710		1	YES	S4VEM
Manganese	Target	2340		mg/kg	2340	D	2	YES	S4VEM
Nickel	Target	26.0		mg/kg	26.0		1	YES	S4VEM
Potassium	Target	2590		mg/kg	2590		1	YES	S4VEM
Selenium	Target	4.8	U	mg/kg	4.8	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	0.43	J	1	YES	S4VEM
Sodium	Target	689	U	mg/kg	60.2	J	1	YES	S4VEM
Thallium	Target	3.4	UJ	mg/kg	0.29	J	1	YES	S4VEM
Vanadium	Target	54.4		mg/kg	54.4		1	YES	S4VEM
Zinc	Target	691		mg/kg	691		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC3	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-11	pH:	Sample Date: 02/19/2020	Sample Time: 13:25:00
% Moisture:		% Solids: 76.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14		mg/kg	0.14		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC3	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-11	pH:	Sample Date: 02/19/2020	Sample Time: 13:25:00
% Moisture:		% Solids: 76.1	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	13600		mg/kg	13600		1	YES	S4VEM
Antimony	Target	7.7	U	mg/kg	2.1	J*	1	YES	S4VEM
Arsenic	Target	18.4		mg/kg	18.4		1	YES	S4VEM
Barium	Target	138		mg/kg	138		1	YES	S4VEM
Beryllium	Target	0.81		mg/kg	0.81		1	YES	S4VEM
Cadmium	Target	1.1		mg/kg	1.1		1	YES	S4VEM
Calcium	Target	4840		mg/kg	4840		1	YES	S4VEM
Chromium	Target	63.1		mg/kg	63.1		1	YES	S4VEM
Cobalt	Target	10.8		mg/kg	10.8		1	YES	S4VEM
Copper	Target	38.7		mg/kg	38.7		1	YES	S4VEM
Iron	Target	38500		mg/kg	38500		1	YES	S4VEM
Lead	Target	145		mg/kg	145		1	YES	S4VEM
Magnesium	Target	2990		mg/kg	2990		1	YES	S4VEM
Manganese	Target	1420		mg/kg	1420		1	YES	S4VEM
Nickel	Target	22.3		mg/kg	22.3		1	YES	S4VEM
Potassium	Target	1610		mg/kg	1610		1	YES	S4VEM
Selenium	Target	4.5	U	mg/kg	4.5	U	1	YES	S4VEM
Silver	Target	1.3	U	mg/kg	0.27	J	1	YES	S4VEM
Sodium	Target	638	U	mg/kg	51.2	J	1	YES	S4VEM
Thallium	Target	3.2	UJ	mg/kg	3.2	U	1	YES	S4VEM
Vanadium	Target	41.5		mg/kg	41.5		1	YES	S4VEM
Zinc	Target	469		mg/kg	469		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC4	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-12	pH:	Sample Date: 02/19/2020	Sample Time: 13:30:00
% Moisture:		% Solids: 70.3	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.13	UJ	mg/kg	0.031	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC4	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-12	pH:	Sample Date: 02/19/2020	Sample Time: 13:30:00
% Moisture:		% Solids: 70.3	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	12600		mg/kg	12600		1	YES	S4VEM
Antimony	Target	8.5	U	mg/kg	1.1	J*	1	YES	S4VEM
Arsenic	Target	11.5		mg/kg	11.5		1	YES	S4VEM
Barium	Target	63.6		mg/kg	63.6		1	YES	S4VEM
Beryllium	Target	0.71	U	mg/kg	0.58	J	1	YES	S4VEM
Cadmium	Target	0.71	U	mg/kg	0.059	J	1	YES	S4VEM
Calcium	Target	3300		mg/kg	3300		1	YES	S4VEM
Chromium	Target	30.9		mg/kg	30.9		1	YES	S4VEM
Cobalt	Target	8.6		mg/kg	8.6		1	YES	S4VEM
Copper	Target	21.1		mg/kg	21.1		1	YES	S4VEM
Iron	Target	25400		mg/kg	25400		1	YES	S4VEM
Lead	Target	39.5		mg/kg	39.5		1	YES	S4VEM
Magnesium	Target	2370		mg/kg	2370		1	YES	S4VEM
Manganese	Target	619		mg/kg	619		1	YES	S4VEM
Nickel	Target	17.4		mg/kg	17.4		1	YES	S4VEM
Potassium	Target	1530		mg/kg	1530		1	YES	S4VEM
Selenium	Target	5.0	U	mg/kg	5.0	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	1.4	U	1	YES	S4VEM
Sodium	Target	711	U	mg/kg	61.5	J	1	YES	S4VEM
Thallium	Target	3.6	UJ	mg/kg	3.6	U	1	YES	S4VEM
Vanadium	Target	31.2		mg/kg	31.2		1	YES	S4VEM
Zinc	Target	136		mg/kg	136		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC5	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-12	pH:	Sample Date: 02/19/2020	Sample Time: 13:40:00
% Moisture:		% Solids: 70.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14	UJ	mg/kg	0.033	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC5	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-12	pH:	Sample Date: 02/19/2020	Sample Time: 13:40:00
% Moisture:		% Solids: 70.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	11900		mg/kg	11900		1	YES	S4VEM
Antimony	Target	8.4	U	mg/kg	0.98	J*	1	YES	S4VEM
Arsenic	Target	10.5		mg/kg	10.5		1	YES	S4VEM
Barium	Target	60.1		mg/kg	60.1		1	YES	S4VEM
Beryllium	Target	0.70	U	mg/kg	0.54	J	1	YES	S4VEM
Cadmium	Target	0.70	U	mg/kg	0.11	J	1	YES	S4VEM
Calcium	Target	3420		mg/kg	3420		1	YES	S4VEM
Chromium	Target	29.8		mg/kg	29.8		1	YES	S4VEM
Cobalt	Target	7.9		mg/kg	7.9		1	YES	S4VEM
Copper	Target	20.6		mg/kg	20.6		1	YES	S4VEM
Iron	Target	24000		mg/kg	24000		1	YES	S4VEM
Lead	Target	41.2		mg/kg	41.2		1	YES	S4VEM
Magnesium	Target	2300		mg/kg	2300		1	YES	S4VEM
Manganese	Target	580		mg/kg	580		1	YES	S4VEM
Nickel	Target	16.2		mg/kg	16.2		1	YES	S4VEM
Potassium	Target	1460		mg/kg	1460		1	YES	S4VEM
Selenium	Target	4.9	U	mg/kg	4.9	U	1	YES	S4VEM
Silver	Target	1.4	U	mg/kg	1.4	U	1	YES	S4VEM
Sodium	Target	698	U	mg/kg	60.2	J	1	YES	S4VEM
Thallium	Target	3.5	UJ	mg/kg	3.5	U	1	YES	S4VEM
Vanadium	Target	29.6		mg/kg	29.6		1	YES	S4VEM
Zinc	Target	152		mg/kg	152		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC6	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-13	pH:	Sample Date: 02/19/2020	Sample Time: 14:07:00
% Moisture:		% Solids: 76.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.12	UJ	mg/kg	0.028	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC6	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-13	pH:	Sample Date: 02/19/2020	Sample Time: 14:07:00
% Moisture:		% Solids: 76.8	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	10700		mg/kg	10700		1	YES	S4VEM
Antimony	Target	7.4	U	mg/kg	1.3	J*	1	YES	S4VEM
Arsenic	Target	12.8		mg/kg	12.8		1	YES	S4VEM
Barium	Target	57.0		mg/kg	57.0		1	YES	S4VEM
Beryllium	Target	0.61	U	mg/kg	0.52	J	1	YES	S4VEM
Cadmium	Target	0.61	U	mg/kg	0.14	J	1	YES	S4VEM
Calcium	Target	2900		mg/kg	2900		1	YES	S4VEM
Chromium	Target	37.4		mg/kg	37.4		1	YES	S4VEM
Cobalt	Target	7.5		mg/kg	7.5		1	YES	S4VEM
Copper	Target	21.3		mg/kg	21.3		1	YES	S4VEM
Iron	Target	24600		mg/kg	24600		1	YES	S4VEM
Lead	Target	41.4		mg/kg	41.4		1	YES	S4VEM
Magnesium	Target	2220		mg/kg	2220		1	YES	S4VEM
Manganese	Target	953		mg/kg	953		1	YES	S4VEM
Nickel	Target	15.5		mg/kg	15.5		1	YES	S4VEM
Potassium	Target	1200		mg/kg	1200		1	YES	S4VEM
Selenium	Target	4.3	U	mg/kg	4.3	U	1	YES	S4VEM
Silver	Target	1.2	U	mg/kg	0.14	J	1	YES	S4VEM
Sodium	Target	614	U	mg/kg	32.3	J	1	YES	S4VEM
Thallium	Target	3.1	UJ	mg/kg	3.1	U	1	YES	S4VEM
Vanadium	Target	30.0		mg/kg	30.0		1	YES	S4VEM
Zinc	Target	180		mg/kg	180		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC7	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: P-14	pH:	Sample Date: 02/19/2020	Sample Time: 14:23:00
% Moisture:		% Solids: 76.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.14		mg/kg	0.14		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC7	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: P-14	pH:	Sample Date: 02/19/2020	Sample Time: 14:23:00
% Moisture:		% Solids: 76.0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	12000		mg/kg	12000		1	YES	S4VEM
Antimony	Target	7.5	U	mg/kg	1.2	J*	1	YES	S4VEM
Arsenic	Target	14.1		mg/kg	14.1		1	YES	S4VEM
Barium	Target	154		mg/kg	154		1	YES	S4VEM
Beryllium	Target	0.95		mg/kg	0.95		1	YES	S4VEM
Cadmium	Target	0.63	U	mg/kg	0.27	J	1	YES	S4VEM
Calcium	Target	8170		mg/kg	8170		1	YES	S4VEM
Chromium	Target	37.5		mg/kg	37.5		1	YES	S4VEM
Cobalt	Target	13.3		mg/kg	13.3		1	YES	S4VEM
Copper	Target	45.3		mg/kg	45.3		1	YES	S4VEM
Iron	Target	34700		mg/kg	34700		1	YES	S4VEM
Lead	Target	30.9		mg/kg	30.9		1	YES	S4VEM
Magnesium	Target	3470		mg/kg	3470		1	YES	S4VEM
Manganese	Target	1160		mg/kg	1160		1	YES	S4VEM
Nickel	Target	28.7		mg/kg	28.7		1	YES	S4VEM
Potassium	Target	2030		mg/kg	2030		1	YES	S4VEM
Selenium	Target	4.4	U	mg/kg	4.4	U	1	YES	S4VEM
Silver	Target	3.0		mg/kg	3.0		1	YES	S4VEM
Sodium	Target	627	U	mg/kg	78.6	J	1	YES	S4VEM
Thallium	Target	3.1	UJ	mg/kg	3.1	U	1	YES	S4VEM
Vanadium	Target	28.7		mg/kg	28.7		1	YES	S4VEM
Zinc	Target	150		mg/kg	150		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC8	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: B-15	pH:	Sample Date: 02/19/2020	Sample Time: 14:45:00
% Moisture:		% Solids: 65.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.15	UJ	mg/kg	0.057	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC8	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: B-15	pH:	Sample Date: 02/19/2020	Sample Time: 14:45:00
% Moisture:		% Solids: 65.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15600		mg/kg	15600		1	YES	S4VEM
Antimony	Target	8.8	U	mg/kg	2.6	J*	1	YES	S4VEM
Arsenic	Target	18.2		mg/kg	18.2		1	YES	S4VEM
Barium	Target	168		mg/kg	168		1	YES	S4VEM
Beryllium	Target	3.0		mg/kg	3.0		1	YES	S4VEM
Cadmium	Target	1.8		mg/kg	1.8		1	YES	S4VEM
Calcium	Target	44500		mg/kg	44500		1	YES	S4VEM
Chromium	Target	71.3		mg/kg	71.3		1	YES	S4VEM
Cobalt	Target	7.4	U	mg/kg	7.1	J	1	YES	S4VEM
Copper	Target	38.6		mg/kg	38.6		1	YES	S4VEM
Iron	Target	63500		mg/kg	63500	D	2	YES	S4VEM
Lead	Target	136		mg/kg	136		1	YES	S4VEM
Magnesium	Target	16000		mg/kg	16000		1	YES	S4VEM
Manganese	Target	1990		mg/kg	1990		1	YES	S4VEM
Nickel	Target	19.4		mg/kg	19.4		1	YES	S4VEM
Potassium	Target	1960		mg/kg	1960		1	YES	S4VEM
Selenium	Target	5.2	U	mg/kg	5.2	U	1	YES	S4VEM
Silver	Target	1.5	U	mg/kg	0.49	J	1	YES	S4VEM
Sodium	Target	737	U	mg/kg	288	J	1	YES	S4VEM
Thallium	Target	3.7	UJ	mg/kg	3.7	U	1	YES	S4VEM
Vanadium	Target	42.9		mg/kg	42.9		1	YES	S4VEM
Zinc	Target	635		mg/kg	635		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC9	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: B-16	pH:	Sample Date: 02/19/2020	Sample Time: 15:10:00
% Moisture:		% Solids: 78.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.16		mg/kg	0.16		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AC9	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: B-16	pH:	Sample Date: 02/19/2020	Sample Time: 15:10:00
% Moisture:		% Solids: 78.2	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	17000		mg/kg	17000		1	YES	S4VEM
Antimony	Target	7.7	U	mg/kg	1.7	J*	1	YES	S4VEM
Arsenic	Target	21.3		mg/kg	21.3		1	YES	S4VEM
Barium	Target	269		mg/kg	269		1	YES	S4VEM
Beryllium	Target	2.5		mg/kg	2.5		1	YES	S4VEM
Cadmium	Target	0.64	U	mg/kg	0.52	J	1	YES	S4VEM
Calcium	Target	36200		mg/kg	36200		1	YES	S4VEM
Chromium	Target	43.9		mg/kg	43.9		1	YES	S4VEM
Cobalt	Target	6.8		mg/kg	6.8		1	YES	S4VEM
Copper	Target	25.1		mg/kg	25.1		1	YES	S4VEM
Iron	Target	44700		mg/kg	44700		1	YES	S4VEM
Lead	Target	129		mg/kg	129		1	YES	S4VEM
Magnesium	Target	10700		mg/kg	10700		1	YES	S4VEM
Manganese	Target	5510		mg/kg	5510	D	3	YES	S4VEM
Nickel	Target	21.4		mg/kg	21.4		1	YES	S4VEM
Potassium	Target	1550		mg/kg	1550		1	YES	S4VEM
Selenium	Target	4.5	U	mg/kg	4.5	U	1	YES	S4VEM
Silver	Target	1.3	U	mg/kg	0.37	J	1	YES	S4VEM
Sodium	Target	639	U	mg/kg	282	J	1	YES	S4VEM
Thallium	Target	3.2	UJ	mg/kg	3.0	J	1	YES	S4VEM
Vanadium	Target	47.5		mg/kg	47.5		1	YES	S4VEM
Zinc	Target	575		mg/kg	575		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD0	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location: B-17	pH:	Sample Date: 02/19/2020	Sample Time: 15:35:00
% Moisture:		% Solids: 60.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.16	UJ	mg/kg	0.11	J	1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: MC0AD0	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location: B-17	pH:	Sample Date: 02/19/2020	Sample Time: 15:35:00
% Moisture:		% Solids: 60.9	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	15900		mg/kg	15900		1	YES	S4VEM
Antimony	Target	9.5	U	mg/kg	2.9	J*	1	YES	S4VEM
Arsenic	Target	43.9		mg/kg	43.9		1	YES	S4VEM
Barium	Target	142		mg/kg	142		1	YES	S4VEM
Beryllium	Target	1.9		mg/kg	1.9		1	YES	S4VEM
Cadmium	Target	0.92		mg/kg	0.92		1	YES	S4VEM
Calcium	Target	13600		mg/kg	13600		1	YES	S4VEM
Chromium	Target	76.3		mg/kg	76.3		1	YES	S4VEM
Cobalt	Target	9.0		mg/kg	9.0		1	YES	S4VEM
Copper	Target	64.1		mg/kg	64.1		1	YES	S4VEM
Iron	Target	58500		mg/kg	58500	D	2	YES	S4VEM
Lead	Target	151		mg/kg	151		1	YES	S4VEM
Magnesium	Target	4420		mg/kg	4420		1	YES	S4VEM
Manganese	Target	1870		mg/kg	1870		1	YES	S4VEM
Nickel	Target	21.4		mg/kg	21.4		1	YES	S4VEM
Potassium	Target	1470		mg/kg	1470		1	YES	S4VEM
Selenium	Target	5.5	U	mg/kg	5.5	U	1	YES	S4VEM
Silver	Target	1.6	U	mg/kg	0.53	J	1	YES	S4VEM
Sodium	Target	789	U	mg/kg	149	J	1	YES	S4VEM
Thallium	Target	3.9	UJ	mg/kg	3.9	U	1	YES	S4VEM
Vanadium	Target	58.9		mg/kg	58.9		1	YES	S4VEM
Zinc	Target	447		mg/kg	447		1	YES	S4VEM

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: PBS01	Method: Mercury by Cold Vapor	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.10	U	mg/kg	0.10	U	1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Sample Number: PBS01	Method: Metals by ICP-AES	Matrix: Soil	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 100	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	11.7	J	mg/kg	11.7	J	1	YES	NV
Antimony	Target	0.27	J	mg/kg	0.27	J	1	YES	NV
Arsenic	Target	1.0	U	mg/kg	1.0	U	1	YES	NV
Barium	Target	0.41	J	mg/kg	0.41	J	1	YES	NV
Beryllium	Target	0.50	U	mg/kg	0.50	U	1	YES	NV
Cadmium	Target	0.50	U	mg/kg	0.50	U	1	YES	NV
Calcium	Target	19.2	J	mg/kg	19.2	J	1	YES	NV
Chromium	Target	1.0	U	mg/kg	1.0	U	1	YES	NV
Cobalt	Target	5.0	U	mg/kg	5.0	U	1	YES	NV
Copper	Target	0.49	J	mg/kg	0.49	J	1	YES	NV
Iron	Target	5.0	J	mg/kg	5.0	J	1	YES	NV
Lead	Target	1.0	U	mg/kg	1.0	U	1	YES	NV
Magnesium	Target	12.1	J	mg/kg	12.1	J	1	YES	NV
Manganese	Target	0.26	J	mg/kg	0.26	J	1	YES	NV
Nickel	Target	4.0	U	mg/kg	4.0	U	1	YES	NV
Potassium	Target	5.0	J	mg/kg	5.0	J	1	YES	NV
Selenium	Target	3.5	U	mg/kg	3.5	U	1	YES	NV
Silver	Target	1.0	U	mg/kg	1.0	U	1	YES	NV
Sodium	Target	5.7	J	mg/kg	5.7	J	1	YES	NV
Thallium	Target	-0.33	J	mg/kg	-0.33	J	1	YES	NV
Vanadium	Target	5.0	U	mg/kg	5.0	U	1	YES	NV
Zinc	Target	6.0	U	mg/kg	6.0	U	1	YES	NV

Sample Summary Report

Project Name: WEIRTON BOP IMPLOSION SITE
Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

ESAT DATA VALIDATION EVALUATION CHECKLIST
Contract # EP-W-13-023

TDF #: 0320061	Revision: 0	Case #: 48747	SDG: MC8TR1
Site Name: Weirton BOP Implosion			
Parameter(s): TM/Hg			
Method(s): ISM02.4			
Laboratory: BON			
Reviewer: Non-responsive based on revised scope	Date Submitted to EPA: 5/5/2020		
Non-responsive based on revised scope	Number of hours spent on review: 14.5		
	Number of Samples/Aliquots: 19/32		
Validation Level/Stage: IM2/S4VEM	EDD: YES		

<u>CRITERIA</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Format according to Region III protocol	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Clarity of report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Qualifiers applied correctly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Consistency between narrative and data summary form(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Error-free transcription	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

EFFICIENCY OF CONTRACTOR

Approval recommended for current submission	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Time spent on review is reasonable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Technical Evaluation	3.7	Non-responsive based on revised scope
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<u>ESD OVERSIGHT DATES</u>	<u>TPO</u>	<u>Oversight</u>	<u>ESAT</u>
Received at EPA	5/5/2020		
Oversight assigned	5/5/2020		
Oversight received		5/5/2020	
Oversight completed		5/5/2020	
Feedback given	5/5/2020		
Mailed to RPM			

Data Validation Checklist - Inorganics

TDF #: 0320061	Case/DAS #: 48747
Site Name: Weirton BOP Implosion	SDG #: MC8TR1
Program: <input checked="" type="checkbox"/> CLP <input type="checkbox"/> Tier IV <input type="checkbox"/> Other	DV Type: <input type="checkbox"/> Org <input checked="" type="checkbox"/> Ino <input type="checkbox"/> HiRes <input type="checkbox"/> Rad <input type="checkbox"/> Asb
Parameter: TM/Hg	DV Regional Level: IM2
SOW/Method: ISM02.4	DV Stage: S4VEM
Laboratory Code: BON	Reviewer: Non-responsive based on revised scope

Due Date: 5/28/20

General

CRITERIA	CHECK	COMMENTS
EPA Oversight Checklist		
TDF #	<input checked="" type="checkbox"/>	
Case #	<input checked="" type="checkbox"/>	
SDG #	<input checked="" type="checkbox"/>	
Site Name	<input checked="" type="checkbox"/>	
Laboratory	<input checked="" type="checkbox"/>	
EPA OSC/RPM	<input checked="" type="checkbox"/>	
CC: (Contractors)	<input checked="" type="checkbox"/>	
Validation Level/Stage	<input type="checkbox"/>	
Parameter	<input checked="" type="checkbox"/>	
Number of Samples/Aliquots	<input checked="" type="checkbox"/>	
Narrative		
Report Header	<input checked="" type="checkbox"/>	
Report Footer	<input checked="" type="checkbox"/>	
Overview		DVR says S3VEM, checklist says S4VEM
Laboratory	<input checked="" type="checkbox"/>	
Analytical method	<input checked="" type="checkbox"/>	
Analytical services program	<input checked="" type="checkbox"/>	
NFG reference	<input checked="" type="checkbox"/>	
Validation level	<input checked="" type="checkbox"/>	
Data package receipt date	<input checked="" type="checkbox"/>	
Criteria		
Qualifier list	<input checked="" type="checkbox"/>	
Appendix A		
Regional COC/ARF	<input checked="" type="checkbox"/>	
Appendix B		
Laboratory narrative/Excerpts	<input checked="" type="checkbox"/>	
Appendix C		
EXES report/Supplemental	<input checked="" type="checkbox"/>	

General Comments:

Reviewed By: Non-responsive based on revised scope _____ Date: 5/4/20

Data Validation Checklist - Inorganics

TDF #: 0320061	Case/DAS #: 48747
Site Name: Weirton BOP Implosion	SDG #: MC8TR1
Program: <input checked="" type="checkbox"/> CLP <input type="checkbox"/> Tier IV <input type="checkbox"/> Other	DV Type: <input type="checkbox"/> Org <input checked="" type="checkbox"/> Ino <input type="checkbox"/> HiRes <input type="checkbox"/> Rad <input type="checkbox"/> Asb
Parameter: TM/Hg	DV Regional Level: IM2
SOW/Method: ISM02.4	DV Stage: S4VEM
Laboratory Code: BON	Reviewer: Non-responsive based on revised ed. Non-responsive based on revised ed. Non-responsive based on revised ed. Non-responsive based on revised ed.

Technical

Section	Check	Comments
Overview	<input checked="" type="checkbox"/>	
Matrix and # of samples	<input checked="" type="checkbox"/>	
Field QC samples	<input checked="" type="checkbox"/>	MC0AB4/AB5; MC0AC4/C5: RB MC0AD1
Summary	<input checked="" type="checkbox"/>	
Major problems	<input checked="" type="checkbox"/>	none
Minor problems	<input checked="" type="checkbox"/>	MS out low for Sb in sample MC0AB2, neg blanks Hg, Tl
Notes	<input checked="" type="checkbox"/>	
Compounds below CRQL	<input checked="" type="checkbox"/>	
Blank contaminants	<input checked="" type="checkbox"/>	
Field Duplicates	<input checked="" type="checkbox"/>	MC0AB4/AB5; MC0AC4/C5
Field/Rinsate Blanks	<input checked="" type="checkbox"/>	RB MC0AD1 (SDG MC8TR2)
Dilutions	<input checked="" type="checkbox"/>	
Calculation	<input checked="" type="checkbox"/>	
SSRs/Form Is	<input checked="" type="checkbox"/>	
Non-Detect RLs	<input checked="" type="checkbox"/>	N / A
EDD	<input checked="" type="checkbox"/>	

DV Item	Check	Qualifier Applied	Comments
Preservation/Holding Time	<input checked="" type="checkbox"/>	None	
Instrument Performance Check	<input checked="" type="checkbox"/>	None	
Calibration	<input checked="" type="checkbox"/>	None	
Blanks	<input checked="" type="checkbox"/>	UJ, U@CRQL	Hg, Tl / Sb, Be, Cd, Co, Ag, Na
Interference Check Sample	<input checked="" type="checkbox"/>	None	
Serial Dilution	<input checked="" type="checkbox"/>	None	
Lab Duplicate	<input checked="" type="checkbox"/>	None	
MS/MSDs/PDS	<input checked="" type="checkbox"/>	UJ	Sb MC0AB2 only
LCS/LCSDs	<input type="checkbox"/>	None	
Internal Standards	<input type="checkbox"/>	none	
Other	<input type="checkbox"/>		

General Comments: MS for Pb – 4X, no qualification

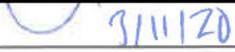
Reviewed By: Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope _____ Date: 5/5/2020

SDG COVER PAGE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029
Lab Code: BON Case No.: 48747 MA No.: _____ SDG No.: MC8TR1
SOW No.: ISM02.4

EPA Sample No.	Lab Sample ID	ICP-AES	Analysis Method		
			ICP-MS	Mercury	Cyanide
<u>MC0AB2</u>	<u>2002280-01</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB2D</u>	<u>B0B2802-DUP1</u>	<u>X</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>MC0AB2D</u>	<u>B0B2803-DUP1</u>	<u>_____</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB2S</u>	<u>B0B2802-MS1</u>	<u>X</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>MC0AB2S</u>	<u>B0B2803-MS1</u>	<u>_____</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB3</u>	<u>2002280-02</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB4</u>	<u>2002280-03</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB5</u>	<u>2002280-04</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB6</u>	<u>2002280-05</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB7</u>	<u>2002280-06</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB8</u>	<u>2002280-07</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AB9</u>	<u>2002280-08</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC0</u>	<u>2002280-09</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC1</u>	<u>2002280-10</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC2</u>	<u>2002280-11</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC3</u>	<u>2002280-12</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC4</u>	<u>2002280-13</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC5</u>	<u>2002280-14</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC6</u>	<u>2002280-15</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC7</u>	<u>2002280-16</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC8</u>	<u>2002280-17</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AC9</u>	<u>2002280-18</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>
<u>MC0AD0</u>	<u>2002280-19</u>	<u>X</u>	<u>_____</u>	<u>X</u>	<u>_____</u>

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG narrative. Release of the data contained in this hardcopy Complete SDG File and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:  Name: 
Date:  Title: President

SDG Narrative
from
Sample Receipt Department

Client: **Environmental Protection Agency, Region 3**
Case No.: **48747**
SDG No.: **MC8TR1**
Modified Analysis No.: **NA**

Contract Number: **EPW14029**
Laboratory Code: **BON**
Work Order No.: **2002280**
SOW: **ISM02.4**

Sample Receipt

On February 24, 2020 we received 19 soils and 1 water via FedEx air bill 7778 1809 7875. Custody seals were present and intact. Cooler temp was determined to be 3 degrees C. Samples were in good condition except for the following discrepancies.

Laboratory problems

Issue 1: All sample IDs listed on the COC have already been used in the laboratory's LIMS as SDG IDs, and cannot be reused. The laboratory would like two new SDG IDs for the soil and water samples.

Resolution 1: Per Region 3, the laboratory will use SDG IDs MC8TR1 and MC8TR2 for the received soil and water samples. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Issue 2 does not apply to this SDG.

Analysis = TM by ICP-AES/Hg

Sample Tags are present.

Non-responsive based on revised scope
Non-responsive based on revised scope

3/2/20
Date

Non-responsive based on revised scope
Non-responsive based on revised scope

3/11/20
Date

By signing, sample receipt personnel and data validator(s) certify that the sample receipt portion of the SDG narrative reflects the emails submitted in the Complete SDG File hardcopy, both technically and for completeness.



2703 Oak Grove Road
Hattiesburg, MS 39402
Phone No.: (601) 264.2854
Fax No.: (601) 268.7084

SDG Narrative from Metals Department

Client: Environmental Protection Agency, Region 3

Case No.: 48747

SDG No.: MC8TR1

Modified Analysis No.: NA

Contract Number: EPW14029

Laboratory Code: BON

Work Order No.: 2002280

SOW: ISM02.4

Laboratory Instrumentation Disclosure

Raw data ppb/ppm concentrations reflect any and all correction(s) applied. Corrections factors are applied to ICP-AES & ICP-MS raw data and background correction(s) are applied to ICP-AES, HG & CN raw data. ICP-MS evaluates the following analyte masses by collision cell (CCT) using 7% hydrogen gas balanced with helium: 51V, 52Cr, 53Cr, 54Fe, 55Mn, 75-77As, 77-82Se, 150Sm, 156Gd, 160Dy & 164Er. ICP-MS internal standards are evaluated in standard and CCT mode (CCT exception: 115In). All MDLs are reported using U.S. Government Printing Office, 40 Code of Federal Regulations, Part 136, Section 1, Appendix B, Revision 1.

Correction of Nonconformity & Corrective Action Issues

Batch & Analysis Information for ICPAES: MC0AB4, B5,C2, and C9 measured above LR for Mn. MC0AB4, B5, C8, and D0 measured above LR for Fe. MS failed for Sb, PS analyzed at two times the CRQL.

Batch & Analysis Information for Mercury: No discrepancies

ICPAES (TM) QC Failure(s) for Matrix Spike, Post Spike, Duplicate and Serial Dilution

Lab ID	EPA ID	Instrument ID	Noted QC Failures (flagged as "**")
B0B2802-MS1	MC0AB2S	ICAPP02	Sb

Sample Calculation for Mercury on CETAC02:

Analysis: ISM024 - Mercury

Batch ID: B0B2803

Sequence ID: S0C0601

ICAL ID: D20C018

Lab ID: 2002280-01

EPA ID: MC0AB2

Date/Time Analyzed: 3/2/20 11:42

Concentration: $0.092 \text{ ug/L} \times (100 \text{ mL}/0.520 \text{ g}) (100/66.8\%) \times 1 \text{ DF} / 1000 = 2.648549\text{E-}02 \Rightarrow 0.0265 \text{ mg/Kg}$

Does the Data Reviewer contest to the accuracy and precision of the sample calculation with respect to the raw data and Form 1(s)? YES or NO



Metals SDG Narrative - Continued

Case No.: 48747	SDG No.: MC8TR1	Work Order No.: 2002280	Contract : EPW14029
------------------------	------------------------	--------------------------------	----------------------------

Sample Calculation for Aluminum on ICAPP02:

Analysis: ISM024 - ICPAES (TM) Batch ID: B0B2802 Sequence ID: S0C1005 ICAL ID: D20C024

Lab ID: 2002280-01 EPA ID: MC0AB2 Date/Time Analyzed: 3/10/20 11:19

Concentration: $112280 \text{ ug/L} \times (100 \text{ mL}/1.08 \text{ g}) (100/66.8\%) \times 1 \text{ DF} / 1000 = 15563.32 \Rightarrow 15600 \text{ mg/Kg}$

Does the Data Reviewer contest to the accuracy and precesion of the sample calculation with respect to the raw data and Form 1(s)? YES or NO

Non-responsive or non-responsive to
3/10/20

Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope

3/10/20
Date

Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope
Non-responsive based on revised scope

3/11/20
Data Validator(s) Date

By signing and dating, metal department validator(s) and data validator(s) certify that all handwritten and electronic paperwork are compliant with the SOW and the analysis portion of the SDG narrative reflects all materials submitted in the Complete SDG File hardcopy, both technically and for completeness.

Data Validation Report

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Holdings_Preservation

NONE FOUND

Data Review Results

Sun, 15
Mar
2020
12:52:44

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

InitialCalibration

NONE FOUND

Data Review Results

Sun, 15
Mar
2020
12:52:44

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Continuing Calibration Verification

NONE FOUND

Data Review Results

Sun, 15
Mar
2020
12:52:44

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

InitialCalibrationVerification

NONE FOUND

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Blanks

Method - Metals by ICP-AES

Test Name: EXES-476

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.

Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Defective Analyte	Defective Samples/Analyses
Beryllium	MC0AB2, MC0AC0, MC0AC4, MC0AC5, MC0AC6
Sodium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.

Associated Samples: LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Defective Analyte	Defective Samples/Analyses
Aluminum	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Beryllium	LCS01, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC1, MC0AC2, MC0AC3, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Chromium	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Iron	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8[Dilution-01], MC0AC9, MC0AD0[Dilution-01]
Manganese	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2[Dilution-01], MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0
Sodium	LCS01

Data are not qualified based on ICB.

DV 5/1/20

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Test Name: EXES-479 Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Associated Samples: LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Aluminum	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Antimony	LCS01, MC0AB2S
Barium	LCS01, MC0AB2, MC0AB2D, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Beryllium	LCS01, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC1, MC0AC2, MC0AC3, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Cadmium	LCS01, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC8, MC0AD0
Calcium	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Chromium	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Cobalt	LCS01, MC0AB2, MC0AB2D, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC9, MC0AD0
Copper	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Iron	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8[Dilution-01], MC0AC9, MC0AD0[Dilution-01]
Magnesium	LCS01, MC0AB2, MC0AB2D, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Manganese	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2[Dilution-01], MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0
Potassium	LCS01, MC0AB2, MC0AB2D, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Silver	LCS01, MC0AB2S, MC0AC7
Sodium	LCS01
Vanadium	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Zinc	LCS01, MC0AB2, MC0AB2D, MC0AB2L, MC0AB2S, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Test Name: EXES-480 Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects. Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Zinc	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Sample results for Zn >CRQL. No data were impacted. DV 5/1/20

Test Name: EXES-506 Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated PB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Antimony	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Sodium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Test Name: EXES-508 Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Barium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Calcium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Copper	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Iron	MC0AB2, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8[Dilution-01], MC0AC9, MC0AD0[Dilution-01]

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Test Name: EXES-508	
Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects.	
Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Magnesium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0
Manganese	MC0AB2, MC0AB3, MC0AB4[Dilution-01], MC0AB5[Dilution-01], MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2[Dilution-01], MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9[Dilution-01], MC0AD0
Potassium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Test Name: EXES-549	
Defect Message: The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.	
Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Thallium	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

See DV Report. DV 5/2/20

Method - Mercury by Cold Vapor

Test Name: EXES-480	
Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.	
Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0	
Defective Analyte	Defective Samples/Analyses
Mercury	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Data Review Results

Sun, 15
Mar
2020
12:52:44

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Test Name: EXES-481

Defect Message: The following samples are associated with ICB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.

Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Defective Analyte	Defective Samples/Analyses
Mercury	MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

See DV Report. 5/2/20

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

InterferenceCheckSample

NONE FOUND

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

LaboratoryControlSample

NONE FOUND

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

MatrixSpikes

Method - Metals by ICP-AES

Test Name: EXES-592

Defect Message: The following samples are associated with Matrix Spike sample that has spike analyte %R within 30 - 74% and Post-digestion spike analyte %R greater than or equal to 75%. Detects are qualified as J. Nondetects are qualified as UJ.

Associated Samples: MC0AB2, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0

Defective Analyte	Defective Samples/Analyses
Antimony	MC0AB2A

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

SerialDilution

NONE FOUND

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

TargetAnalyteQuantitation

Method - Metals by ICP-AES

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0, PBS01

Defective Analyte	Defective Samples/Analyses
Aluminum	PBS01
Antimony	MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0, PBS01
Barium	MC0AB2L, PBS01
Beryllium	MC0AB2, MC0AB2D, MC0AB2L, MC0AC0, MC0AC4, MC0AC5, MC0AC6
Cadmium	MC0AB2, MC0AB2D, MC0AB2L, MC0AB7, MC0AB8, MC0AB9, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC9
Calcium	PBS01
Cobalt	MC0AB2L, MC0AC8
Copper	PBS01
Iron	PBS01
Magnesium	MC0AB2L, PBS01
Manganese	PBS01
Nickel	MC0AB2L
Potassium	MC0AB2L, PBS01
Silver	MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC6, MC0AC8, MC0AC9, MC0AD0
Sodium	MC0AB2, MC0AB2D, MC0AB2L, MC0AB3, MC0AB4, MC0AB5, MC0AB6, MC0AB7, MC0AB8, MC0AB9, MC0AC0, MC0AC1, MC0AC2, MC0AC3, MC0AC4, MC0AC5, MC0AC6, MC0AC7, MC0AC8, MC0AC9, MC0AD0, PBS01
Thallium	MC0AB4, MC0AB9, MC0AC2, MC0AC9, PBS01

Method - Mercury by Cold Vapor

Data Review Results

Sun, 15
Mar
2020
12:52:44

Project Name: WEIRTON BOP IMPLOSION SITE Project**GroupID:** 48747/EPW14029/MC8TR1**Lab Name:** Bonner Analytical Testing Co.**Submission Group Id:** 31754319**Organization:** EPA Region 3**SOW:** ISM02.4

Test Name: EXES-790**Defect Message:** The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.**Associated Samples:** MC0AB2, MC0AB2D, MC0AB7, MC0AB8, MC0AB9, MC0AC4, MC0AC5, MC0AC6, MC0AC8, MC0AD0

Defective Analyte	Defective Samples/Analyses
Mercury	MC0AB2, MC0AB2D, MC0AB7, MC0AB8, MC0AB9, MC0AC4, MC0AC5, MC0AC6, MC0AC8, MC0AD0

Data Validation Report

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

Duplicates

NONE FOUND

Data Review Results

Project Name: WEIRTON BOP IMPLOSION SITE Project

GroupID: 48747/EPW14029/MC8TR1

Lab Name: Bonner Analytical Testing Co.

Submission Group Id: 31754319

Organization: EPA Region 3

SOW: ISM02.4

SampleAnalysis

NONE FOUND